Supermicro
Supermicro X11SSM-F motherboard (X11SSM-F, Intel Xeon E3-1280 v5)

**CPU2006 license:** 001176  
**Test date:** Jan-2016

**Test sponsor:** Supermicro  
**Hardware Availability:** Oct-2015

**Tested by:** Supermicro  
**Software Availability:** Sep-2015

---

### SPECfp2006 Result

**SPECfp®2006 =** 101  
**SPECfp_base2006 =** 98.5

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>56.9</td>
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<tr>
<td>416.gamess</td>
<td>50.9</td>
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<tr>
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<td>435.gromacs</td>
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<tr>
<td>436.cactusADM</td>
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<tr>
<td>437.leslie3d</td>
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<tr>
<td>444.namd</td>
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<td>79.5</td>
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<tr>
<td>459.GemsFDTD</td>
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<td>465.tonto</td>
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<tr>
<td>481.wrf</td>
<td>133</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>103</td>
</tr>
</tbody>
</table>

---

### Hardware

- **CPU Name:** Intel Xeon E3-1280 v5  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.00 GHz  
- **CPU MHz:** 3700  
- **FPU:** Integrated  
- **CPU(s) enabled:** 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1 chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 256 KB I+D on chip per core

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.1, Kernel 3.10.0-229.el7.x86_64  
- **Compiler:** C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux; Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux
- **Auto Parallel:** Yes  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)
Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro
L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC4-2133P-E)
Disk Subsystem: 1 x 200 GB SATA III SSD
Other Hardware: None

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td><strong>189</strong></td>
<td><strong>103</strong></td>
<td>190</td>
<td>103</td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

**Platform Notes**

As tested, the system used a Supermicro CSE-113MFAC2-R606CB chassis. The chassis is configured with 2 PWS-606P-1R redundant power supply, 1 SNK-P0046P heatsink, as well as 4 FAN-0154L4 middle cooling fan. Sysinfo program /usr/cpu2006/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 $$e3fbb8667b5a285932ceab81e28219e1

running on X11SSM-01 Mon Jan 11 19:19:06 2016

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Continued on next page
Supermicro X11SSM-F motherboard  
(X11SSM-F, Intel Xeon E3-1280 v5)

**SPECfp2006** = 101  
**SPECfp_base2006** = 98.5

CPU2006 license: 001176  
Test date: Jan-2016  
Test sponsor: Supermicro  
Hardware Availability: Oct-2015  
Tested by: Supermicro  
Software Availability: Sep-2015

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**Platform Notes (Continued)**

From `/proc/cpuinfo`
- **model name**: Intel(R) Xeon(R) CPU E3-1280 v5 @ 3.70GHz
- 1 "physical id"s (chips)
- 8 "processors"
- Cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from `/proc/cpuinfo` might not be reliable. Use with caution.)
  - cpu cores : 4
  - siblings : 8
  - Physical 0: cores 0 1 2 3
  - cache size : 8192 KB

From `/proc/meminfo`
- MemTotal: 32768248 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

From `/etc/*release` /`/etc/*version`
- **os-release**:
  - NAME="Red Hat Enterprise Linux Server"
  - VERSION="7.1 (Maipo)"
  - ID="rhel"
  - ID_LIKE="fedora"
  - VERSION_ID="7.1"
  - PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
  - ANSI_COLOR="0;31"
  - CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
  - redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
  - system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)

`uname -a`:
- Linux X11SSM-01 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29 18:37:38 EST 2015
- x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 11 19:16

SPEC is set to: `/usr/cpu2006`

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 183G 39G 145G 21% /

Additional information from `dmidecode`:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

- BIOS American Megatrends Inc. 1.0b 12/29/2015
- Memory:
  - 4x Micron 18ASF1G72AZ-2G1A1 8 GB 2 rank 2133 MHz

Continued on next page
Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

SPECfp2006 = 101
SPECfp_base2006 = 98.5

Platform Notes (Continued)
(End of data from sysinfo program)

General Notes
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:
icc  -m64

C++ benchmarks:
icpc  -m64

Fortran benchmarks:
ifort  -m64

Benchmarks using both Fortran and C:
icc  -m64 ifort  -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64  -nofor_main
436.cactusADM: -DSPEC_CPU_LP64  -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64  -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64  -DSPEC_CPU_CASE_FLAG  -DSPEC_CPU_LINUX

Continued on next page
Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

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CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Sep-2015

Base Portability Flags (Continued)

482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Peak Compiler Invocation

C benchmarks:
icc   -m64

C++ benchmarks:
icpc  -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc   -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
433.milc: basepeak = yes

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Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

SPECfp2006 = 101
SPECfp_base2006 = 98.5

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Sep-2015

Peak Optimization Flags (Continued)

470.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:
444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
         -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
         -par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias
         -auto-ilk32
447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
             -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
             -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
             -ansi-alias

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
             -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
             -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
             -inline-level=0 -scalar-rep-
434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
              -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
              -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
              -inline-level=0 -opt-prefetch -parallel
465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
           -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
           -par-num-threads=1(pass 1) -prof-use(pass 2) -inline-calloc
           -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:
435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes

Continued on next page
Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

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Peak Optimization Flags (Continued)

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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